INDIANA COLLECTION

LAKES

/_/ INITIAL SURVEY

/X/ RE-SURVEY

/_/ OTHER

LAKE Wolf Lake

COUNTY Lake

BIOLOGIST Bob Robertson

FISH MANAGEMENT

DATE OF SURVEY June 18-21, 1974 DATE OF APPROVAL

1. QUADRANGLE NAME Lake Calumet TWP. 37 N R. 10 W S. 1,12,13

2. NEAREST TOWN Hammond

3. ACCESSIBILITY - STATE OWNED PUBLIC ACCESS SITE:
PRIVATELY OWNED PUBLIC ACCESS SITE:
OTHER: Public Park

4. SURFACE ACRES 385 MAXIMUM DEPTH 20 (FT.) AVERAGE DEPTH (FT.) ACRE FT.

5. WATER LEVEL (MSL) EXTREME FLUCTUATIONS Very Little

6. LOCATION OF BENCHMARK Located on Illinois side of the lake

7. INLETS:
NAME None LOCATION ORIGIN
NAME LOCATION ORIGIN
NAME LOCATION ORIGIN

8. OUTLET:
NAME Calumet River LOCATION

9. WATER LEVEL CONTROL Tube under State Line Road

10.

POOL	ELEVATION (FEET MSL)	ACRES
TOP OF DAM		
TOP OF FLOOD CONTROL POOL		
TOP OF CONSERVATION POOL		
TOP OF MINIMUM POOL		
STREAMBED		

11. BOTTOM TYPE: BOULDER GRAVEL SAND MUCK CLAY MARL

12. WATERSHED USE: Heavily populated industrial-residential area

13. DEVELOPMENT OF SHORELINE: Shoreline occupied by industries, private residences, and city owned park with a public beach

HOMES BOATS MARINAS CAMPS RESORTS

14. PREVIOUS SURVEYS AND INVESTIGATIONS: Fisheries survey in 1969

June 1971
GH:eh

LAKE COUNTY PUBLIC LIBRARY

15. SAMPLING EFFORT:

ELECTROFISHING: HOURS _____ TOTAL HOURS 2 (night)

GILLNETS: NUMBER 4 HOURS 72 TOTAL HOURS 288

TRAPS: NUMBER _____ HOURS _____ TOTAL HOURS _____

SHORELINE SEINING: NUMBER OF 100 FOOT SEINE HAULS _____

ROTENONE: GALLONS _____ ppm _____ ACRE FEET TREATED _____

PHYSICAL AND CHEMICAL CHARACTERISTICS

16. COLOR Brown TURBIDITY 3.5' (SECCHI DISK)

17. TEMPERATURE:

DEPTH	DEGREES F.	DEPTH	DEGREES F.
SURFACE	65°	40	
2	65	42	
4	65	44	
6	65	46	
8	65	48	
10	65	50	
12	65	52	
14	65	54	
16		56	
18		58	
20		60	
22		62	
24		64	
26		66	
28		68	
30		70	
32		72	
34		74	
36		76	
38		78	

18. D.O. - TOTAL ALKALINITY - pH :

DEPTH	D.O.	TOTAL ALKALINITY	pH
SURFACE	10 ppm	119 ppm	8.5
5	10		
10	10		
15	10	85	8.5
20			
25			
30			
35			
40			

* Limits of thermocline:

BIOLOGICAL CHARACTERISTICS:

19. COMMON SPECIES OF AQUATIC PLANTS AND PERCENT SURFACE AREA COVERED 15

	COMMON NAME	SCIENTIFIC NAME	AREA OF LAKE FOUND IN	DEPTH FOUND	PER CENT COVERED
Emergents	Cattail	Typha spp.	Scattered N. End	2	1
	White water lilly	Nymphaea tuberosa	Scattered N. End	2	1
	Spatterdock	Nuphar advena	Scattered N. End	2	1
	Bulrush	Scirpus spp.	Scattered N. End	1	
	Arrowhead	Sagittaria latifolia	Scattered N. End	1	
Submersed	Coontail	Ceratophyllum spp.	Scattered S. End	5	2
	Water milfoil	Myriophyllum spp.	Scattered S. End	5	2
	American elodea	Elodea canadensis	Scattered S. End	5	2
	Curlyleaf pondweed	Potamogeton crispus	Scattered S. End	5	2
	Sago pondweed	P. percinatus	Scattered S. End	5	2
	Leafy pondweed	P. foliosus	Scattered S. End	5	-
	Richardson pondweed	P. richardsonii	Scattered S. End	5	-
	Slender naiad	Najas flexilis	Scattered S. End	5	Rare
	Eel grass	Vallisneria americana	Scattered S. End	3	-
Floating	Duckweed	Lemna spp.	Scattered	-	Rare
Algae	Algae	Filamentous & Planktonic	Scattered	-	Abundant at times
	Chara	Chara	Scattered S. End	5	2

COMMENTS Some dense beds of submersed vegetation are present in the southern and eastern portion of the lake. Emergents are no prblem at present.

FISHES

20. SPECIES AND RELATIVE ABUNDANCE

COMMON NAME	SCIENTIFIC NAME	NUMBER	PERCENTAGE
Bluegill	Lepomis macrochirus	281	34.0
Alewife	Alosa pseudoharengus	187	22.6
Yellow perch	Perca flavescens	105	12.6
Golden shiner	Notemigonus crysoleucas	71	8.6
Warmouth	Lepomis gulosus	35	4.2
Largemouth bass	Micropterus salmoides	34	4.1
Pumpkinseed	Lepomis gibbosus	32	3.9
Gizzard shad	Dorosoma cepedianum	25	3.0
Carp	Cyprinus carpio	15	1.8
Black bullhead	Ictalurus melas	7	.9
Longear sunfish	Lepomis megalotis	6	.7
Common shiner	Notropis cornutus	6	.7
Northern pike	Esox lucius	5	.6
Yellow bullhead	Ictalurus natalis	4	.5
Grass pickerel	Esox americanus vermiculatus	4	.5
Lake chubsucker	Erimyzon sucetta	4	.5
Green sunfish	Lepomis cyanellus	3	.4
Black crappie	Pomoxis nigromaculatus	2	.2
Bowfin	Amia calva	1	.1
Bluntnose minnow	Pimephales notatus	1	.1
Channel catfish	Ictalurus punctatus	1	.1
		829	99.8

21. NUMBER, PERCENTAGE, WEIGHT, CONDITION AND AGE OF Bluegill

TOTAL LENGTH (inches)	NUMBER	PERCENTAGE	AVE. WEIGHT (pounds)	CONDITION FACTOR(k)	AGE
2.5	2	.83	-	-	I+
3.0	2	.83	-	-	I+
3.5	2	.83	.06	10	II+
4.0	2	.83	.08	10	II+
4.5	15	5.40	.09	9	II,III+
5.0	28	10.0	.13	10	III+
5.5	84	30.0	.14	8.5	III,IV+
6.0	78	10.0	.20	9.3	III,IV+
6.5	28	5	.26	9.3	III,IV+
7.0	14	4.56	.31	9	IV+
7.5	13	1.66	.37	8.8	IV,V+
8.0	5	2.08	.43	8.2	VI,VII+
8.5	7	.41	.53	8.4	VI,VII+
9.0	1		.6	7.9	VII+
	281	100%			

Condition Above Average

Age-Growth Below Average

% catchable 81.8

21. NUMBER, PERCENTAGE, WEIGHT, CONDITION AND AGE OF Yellow Perch

TOTAL LENGTH (inches)	NUMBER	PERCENTAGE	AVE. WEIGHT (pounds)	CONDITION FACTOR(k)	AGE
5.0	2	1.5	.07	5.5	II+
5.5	57	54.0	.09	5.3	II+
6.0	26	26.0	.09	3.3	II+
6.5	2	1.5	.13	4.7	III+
7.0	8	8.0	.15	4.3	IV,V+
7.5	3	3.0	.19	4.5	V+
8.0	3	3.0	.22	4.3	V+
8.5	2	1.5	.24	3.9	V+
-					
-					
10.0	2	1.5	-	-	VI+
Total	105	100%			

Condition Average

Age-Growth Below Average

% catchable 9.5

SC

21. NUMBER, PERCENTAGE, WEIGHT, CONDITION AND AGE OF Largemouth bass

TOTAL LENGTH (inches)	NUMBER	PERCENTAGE	AVE. WEIGHT (pounds)	CONDITION FACTOR(k)	AGE
3.0	1	2.94	-	-	-
3.5	1	2.94	-	-	-
4.0	1	2.94	-	-	-
-					
5.0	1	2.94	.11	9.0	II+
-					
6.0	1	2.94	.10	4.7	II+
-					
7.0	2	5.88	.17	4.9	II,III+
7.5	1	2.94	.18	4.3	II,III+
8.0	2	5.88	.25	4.9	II,III+
8.5	2	5.88	.29	4.7	III+
9.0	3	8.82	.39	5.3	III+
9.5	5	14.7	.50	5.8	III+
10.0	3	8.82	.45	4.5	III+
10.5	1	2.94	.6	5.2	-
11.0	1	2.94	.75	5.5	IV+
11.5	3	8.82	.69	4.6	IV+
12.0	2	5.88	.82	4.7	IV+
12.5	2	5.88	1.01	5.0	IV+
14.0	1	2.94	1.32	4.8	IV+
20.0	1	2.94	4.70	10	-

Condition Above Average

Age-Growth Below Average

% catchable 41.1

21. NUMBER, PERCENTAGE, WEIGHT, CONDITION AND AGE OF Northern Pike

TOTAL LENGTH (inches)	NUMBER	PERCENTAGE	AVE. WEIGHT (pounds)	CONDITION FACTOR(k)	AGE
22.0	1	20.0	2.56	2.3	II,III+
26.0	1	20.0	3.94	2.2	II,III+
28.0	1	20.0	5.44	2.5	IV+
33.5	1	20.0	-	-	IV+
36.0	1	20.0	12.85	2.7	-
	5	100.0			

Condition Average

Age-Growth Average

% catchable 100%

22. MEAN CALCULATED LENGTH IN INCHES AT LAST ANNULUS FORMATION

SPECIES	AGE GROUPS I	II	III	IV	V	VI	VII
Bluegill	2.1 (2)	3.2 (5)	4.7 (9)	6.3 (6)	7.1 (2)	7.8 (3)	8.3 (3)
Yellow perch	( )	5.2 (7)	6.4 (2)	6.5 (1)	7.3 (6)	8.9 (1)	
Largemouth bass	( )	6.3 (4)	8.6 (13)	11.7 (8)	( )	( )	
Northern pike	( )	23.5 (1)	20.1 (1)	28.7 (1)	( )	( )	
	( )	( )	( )	( )	( )	( )	
	( )	( )	( )	( )	( )	( )	

23. FALL SEINE SAMPLING

SPECIES	NUMBER	SIZE RANGE (inches)

24. FISH PARASITES AND DISEASES None Noted

25. EVIDENCE OF EROSION OR POLLUTION The Wolf Lake channel is heavily silted with foul smelling sediments. Dissolved oxygen content in this area is lower than in the lake proper.

Fish Management Report

WOLF LAKE (INDIANA SIDE)

Lake County

Wolf lake is a 385 acre lake located in Lake County in the extreme N. E. corner of Indiana. About one-half of the lake lies in Illinois. Extensive dredging and filling has modified the lake leaving the exact surface area and mean depth unknown. Most of the shoreline includes a city beach. The lake offers fishing and other recreational activities to a large number of people due to the populated area surrounding the lake.

Although Wolf Lake once flowed into Lake Michigan, the Wolf Lake channel now ends about a quarter mile before reaching Lake Michigan. Two large industrial plants discharge water taken from Lake Michigan into the channel. An emergency sewer outfall from the city of Hammond also occasionally flows into the channel. Flow in this channel is now into Wolf Lake. An initial fishery survey was conducted in 1969.

On June 18-21, 1974 a second fishery survey was conducted. A total of 829 fish were examined representing 21 species. Relative abundance of the major species were as follows: bluegill 34.0%, alewife 22.6%, yellow perch 12.6%, golden shiner 8.6%, warmouth 4.2%, largemouth bass 4.1%, pumpkinseed 3.9%, gizzard shad 3.0%, and carp 1.8%. Additional fish of importance but present in lesser numbers included bullhead (both black and yellow0, northern pike, black crappie and channel catfish. Species considered important to the creel * made up 40.7% of the total sample in 1974 compared to 39.5% in 1969. (*bluegill, largemouth bass, carp, northern pike and black crappie.)

LAKE COUNTY PUBLIC LIBRARY

Bluegill increased slightly in relative abundance between 1969 and 1974. The maximum size of the bluegill increased 1 inch during this period with fish up to 9 inches present. The percentage of catchable sized fish also increased from 40.6% in 1969 to 81.8% in 1974. The condition (relative plumpness) of the bluegill was above average but growth is now considered below average.

Yellow perch were mainly small (only 9.5% were of catchable size) and their growth was below average. The condition of these fish was average. Perch up to 8.5 inches were collected.

The abundance of largemouth bass decreased slightly since 1969. The maximum size, percent catchable, and condition of the bass population have all increased. In 1974 41.1% of all bass collected were considered large enough to interest anglers. Although the condition of these fish was above average, growth declined to below average for this species.

Relative abudance of northern pike remains low but apparently stable. Pike up to 36 inches were collected. Two, three, and four-year-old fish exhibited average growth and and condition factors.

Only two black crappie were collected in 1974 while 40 crappie were collected in the 1969 survey. Walleye and sauger were not found in 1974 although they appeared in small numbers in the earlier survey.

Although alewives and gizzard shad made up 25.6% of the 1974 sample by number, the game species present make Wolf Lake a good, recreational fishing area.

In order to maintain and improve fishing in Wolf Lake the following recommendations are made:

1) Water quality in the channel area of the lake should be improved. Foul smelling sediment and a lower dissolved oxygen content was characteristic of the channel area. This area may be the source of the "bad tasting" fish occasionally reported in Wolf Lake. The channel also sustained a large fish kill during the winter of 1974-75.

2) Fishing access to Wolf Lake should be increased by establishing shoreline paths, piers, and a row-boat rental.

3) The dense areas of submersed vegetation should be controlled. A city sponsored week control program should be initiated to reduce weed beds near the shore which presently hinder shore fishing.

4) Industrial discharge of Lake Michigan water into Wolf Lake should be monitored.

5) The Division of Water should prepare a hydrographic map of Wolf Lake. An accurate contour map would assist fishermen in locating preferrable areas to fish and provide essential information on water volume.

Submitted by: Bob Robertson, Fishery Biologist
District I

Approved by: Gary E. Hudson, Regional Fishery Supervisor
Date: April 10, 1975

Approved by: Robert W. Hollingsworth, Chief of Fisheries
Date: April 10, 1975

LAKE COUNTY PUBLIC LIBRARY